REMARKS

Claims 1-16 are pending, of which Claims 14-16 are withdrawn from consideration.

The Presently Claimed Invention is Patentable over Kobayashi in view of Kajiura

In paragraph 4, on page 2 of the Office Action, Claims 1-10, 12 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi (JP 2004/071473; a machine English translation was provided by the Examiner) (hereinafter "Kobayashi") in view of newly cited Kajiura (U.S. Patent No. 5,907,382) ("Kajiura").

Applicants respectfully traverse.

The Examiner states on page 6, paragraph 15 of the Office Action that the response filed July 21, 2010 was persuasive, and thus the rejection of Claims 1-13 under 35 U.S.C. § 102/103 based on Kobayashi alone has been withdrawn. In the response, Applicants traversed the rejection, and explained to the Examiner that Kobayashi discloses forming a polysiloxane layer (-Si-O-Si-) and not an organic polysilane layer (-Si-Si-Si-). In particular, Applicants pointed out to the Examiner that the polysiloxane compounds disclosed in paragraphs [0028]-[0032] of Kobayashi are actually precursors for forming Kobayashi's polysiloxane layer (B).

In the present Office Action, the Examiner newly rejects the claims based on the combination of Kobayashi and Kajiura. However, for at least the following reasons, the presently claimed invention is patentable over Kobayashi and Kajiura.

In this regard, Applicants kindly point out that, in view of the statements made at page 3, lines 2-3 of the Office Action, the Examiner has an incorrect understanding about Kobayashi's disclosure. Therein, the Examiner alleges that Kobayashi further discloses that its wettability variable layer may be comprised of an organic polysilane, as starting monomers, that are irradiated to form organopolysiloxanes. However, this sentence should properly read:

"Kobayashi further discloses that its wettability variable layer can be comprised of a polysiloxane, which can be obtained by hydrolytic polycondensation of an organic silicone compound (paragraphs 0028-0032 and 0086)."

In order to clarify and support the explanation provided above, and for the Examiner's further understanding, Applicants are attaching herewith a more accurate English translation of paragraphs 0028-0032 and 0086 of Kobayashi.

In addition, Applicants point out to the Examiner that Kobayashi does not irradiate a certain region of the layer (B) with radiation to "oxidize" the organic polysilane in the certain region. *See, e.g.*, Table 1 on page 3 of the response filed July 21, 2010. This is because Kobayashi forms the polysiloxane layer by hydrolytic polycondensation of an organic silicone compound prior to irradiation. Thus, Kobayashi actually discloses irradiating the polysiloxane layer. Further, Kobayashi does not disclose impregnating the layer (B) in the certain region (i.e., the irradiated region) with conducting polymer to electrically connect the formed layer (C) and the substrate (A).

Kajiura does not cure the deficiencies of Kobayashi explained above.

According to the present claims, only a certain region of the polysilane layer (B) of the present application is irradiated, forming an oxidized (or polysiloxane) portion only in the certain region, while the surrounding region remains polysilane. *See, e.g.*, page 9, lines 24-28 of the present specification. In contrast, in Kajiura and Kobayashi the entire layer (B) becomes polysiloxane before any further processing is performed. Thus, Kobayashi in combination with Kajiura fails to disclose oxidizing organic polysilane in a certain region and then applying a solution containing conducting polymer, water, and/or a hydrophilic solvent at least on the certain region to form layer (C), while impregnating the layer (B) in the certain region.

Further, the substrate according to the presently claimed invention differs from the substrate of Kajiura, and as explained below, one of ordinary skill in the art in possession of the teachings of Kajiura would not have arrived at the electrically connecting the layer (C) and the substrate (A) according to the presently claimed invention.

For purposes of illustration, the structure of the substrate according to the presently claimed invention, as shown, for example, in the non-limiting embodiment of Fig. 3, can be described as follows:

> [CONDUCTIVE SUBSTRATE (A) (CONDUCTIVE)]/
>
> [NO UV-IRRADIATED POLYSILANE REGION (NON-CONDUCTIVE) AND REGION WITH CONDUCTING POLYMER IMPREGNATED AFTER UV IRRADIATION (CONDUCTIVE)]/
>
> [LAYER (C) COMPRISING CONDUCTING POLYMER]

In other words, patterning is conducted in the region of [conductive]/[non-conductive]/[conductive] and in the region of [conductive]/[conductive]/[conductive].

On the other hand, the structure of the substrate of Kajiura as shown, for example, in Fig. 1, can be described follows:

> [METAL OXIDE LAYER OR METAL NITRIDE LAYER 124 (NON-CONDUCTIVE)]/
>
> [HEAT RESISTANT TRANSPARENT RESIN SUBSTRATE 11 (NON-CONDUCTIVE)]/
>
> [METAL OXIDE LAYER OR METAL NITRIDE LAYER 123 (NON-CONDUCTIVE)]/
>
> [TRANSPARENT ELECTRODE 15 (CONDUCTIVE)]

The metal oxide layer or metal nitride layer 123 (non-conductive) is obtained with irradiation of polysilane with UV. In other words, the structure of layers in Kajiura is (non-conductive)/(non-conductive)/(non-conductive)/(conductive).

As illustrated above, one of ordinary skill in the art would readily appreciate that the layer structure is different between the presently claimed invention and Kajiura in that the former has polysilane layer (B) formed on a conductive layer, and the latter has a polysilane layer formed on a non-conductive layer.

This difference in layer structure allows the presently claimed invention to impregnate the layer (B) in the radiation-irradiated region with a conducting polymer to permit electrical connection between the layer (C) and the substrate (A). In contrast, Kajiura cannot realize this type of electrical connection because one layer is conductive while the other is non-conductive.

In addition, the Examiner alleges on page 4, lines 3-4 of the Office Action that Kajiura further discloses impregnating its polysilane thin film layer with "conductive" silane coupling agents. Applicants respectfully disagree. Kajiura in column 15, lines 44-56 mentions coupling agents, but they are not electrically conductive. Although Kajiura describes that the fine pores of the silicon oxide layers are impregnated with the coupling agent, and thus the mechanical strength of the silicon oxide layers and the adhesion of the base and the silicon oxide layers can be improved, Kajiura does not provide any description that the coupling agents are electrically conductive. In this regard, column 15, lines 54-56 describes, "The coupling agent and process method thereof are the same as those for the transparent conductive substrate according to the present invention." With all due respect, the Examiner appears to have mischaracterized the coupling agent of Kajiura as being conductive. Instead, from the context of this sentence with reference to the whole disclosure of Kajiura, one of ordinary skill in the art would understand

that Kajiura is more accurately indicating that: "The coupling agent and process method thereof [for the silicon oxide layers] are the same as those [coupling agent and process method] for the transparent conductive substrate according to the present invention."

Accordingly, Kajiura does not teach or suggest electrically connecting the layer (C) and the substrate (A), as recited by the presently claimed invention, and the combination of Kobayashi and Kajiura would not have led to the structure of the presently claimed invention.

In view of the above, Applicants respectfully request reconsideration and withdrawal of the rejection of Claims 1-10, 12 and 13 under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi and Kajiura.

The Presently Claimed Invention is Patentable over Kobayashi, Kajiura and Veres

In paragraph 11, on page 5 of the Office Action, Claim 11 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi in view of Kajiura, as applied to Claim 1, and further in view of Veres (WO 2004/013922).

Applicants respectfully traverse.

Claim 11 depends from independent Claim 1. Applicants explained above the reasons why Claim 1 is patentable over the Examiner's combination of Kobayashi and Kajiura. Veres does not cure the deficiencies of Kobayashi and Kajiura. Accordingly, Claim 11 is patentable over the Examiner's combination of Kobayashi, Kajiura and Veres in view of its dependency on Claim 1 and the additional elements recited therein.

In view of the above, Applicants respectfully request reconsideration and withdrawal of the rejection of Claim 11 under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi, Kajiura and Veres.

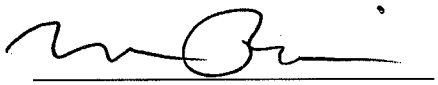
Conclusion

Reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the local, Washington, D.C. telephone number listed below.

The U.S. Patent and Trademark Office is hereby directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Michael G. Raucci
Registration No. 61,444

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: April 15, 2011